

What is claimed is:

1. A multi-media system comprising:

an input device for entering one or more program numbers of intended programs;

5 a receiver including a first digital interface, for generating a command based on a program number received from said input device, and for transferring the command in an asynchronous transfer mode via said first digital interface; and

10 a recording/reproducing device including a second digital interface, for decoding the command transferred from said receiver, and for recording/reproducing a transport stream being received, corresponding to the program number obtained by decoding the received command.

2. The multi-media system of claim 1, wherein said input device is a remote controller.

3. A multi-media system comprising:

a receiver for receiving a transport stream and a recording/reproducing device for recording/reproducing the transport stream, said receiver comprising:

5 a first signal processor for parsing program specific information (PSI) of the received transport stream and decoding a video signal and an audio signal of an intended program based on the parsed PSI;

10 an input device for entering one or more program numbers of intended programs; and

a first digital interface for generating a program number command based on a program number received from said

input device, to transfer the command, and for transferring a transport stream provided by said first signal processor; and said recording/reproducing device comprising:

a second digital interface for decoding the program number command transferred via said first digital interface and for receiving the transport stream being transferred via the first digital interface; and

a second signal processor for extracting an intended program from the transport stream received by said second digital interface, based on the program number, and for recording the extracted result on recording media during a recording mode, and for generating a reproduced transport stream to the second digital interface during a playback mode.

4. The multi-media system of claim 3, wherein said input device is a remote controller.

5. The multi-media system of claim 4, wherein said receiver is connected to one or more recording/reproducing devices using the digital interface and said recording/reproducing devices are controlled by said input device.

6. The multi-media system of claim 3, wherein said first digital interface generates a command based on the parsed PSI.

7. The multi-media system of claim 3, wherein said first and second digital interfaces are each an IEEE 1394 interface.

8. The multi-media system of claim 7, wherein said first digital interface transfers the transport stream as isochronous packets during an isochronous transfer mode, and

transfers the program number as asynchronous packets during an
5 asynchronous transfer mode using a control command set.

9. The multi-media system of claim 8, wherein the control command set is an audio/video control command and transaction set (AV/C CTS).

10. The multi-media system of claim 3, wherein said first digital interface transfers a multi-program transport stream isochronous packets in an isochronous transfer mode, and said second digital interface transfers a single program
5 transport stream as isochronous packets in the isochronous transfer mode during a playback mode.

11. The multi-media system of claim 3, wherein said first digital interface transfers a multi-program transport stream as isochronous packets in an isochronous transfer mode, and said second digital interface transfers a multi-program transport stream as isochronous packets in the isochronous transfer mode during a playback mode.

12. The multi-media system of claim 3, wherein said first digital interface transfers a single program transport stream as isochronous packets in an isochronous transfer mode, and said second digital interface transfers a single program
5 transport stream as isochronous packets in the isochronous transfer mode during a playback mode.

13. The multi-media system of claim 7, wherein said first digital interface comprises:

a first microcomputer including a transaction layer and a serial bus management layer, as software, for generating a
5 program number command based on a program number received from

the input device, using a write transaction and a read transaction;

10 a first link layer for adding an asynchronous header to the program number command received from the first microcomputer to convert the program number command into serial data; and

a first physical layer for converting the serial data into an electrical signal.

14. The multi-media system of claim 13, wherein said receiver further comprises a first extra header inserter/remover for inserting an extra header into a transport stream being received, to form a data block packet for the IEEE 1394 transfer, and for removing the extra header inserted into a reproduced data block packet, provided by said first digital interface, for the IEEE 1394 transfer.

15. The multi-media system of claim 7, wherein said second digital interface comprises:

5 a second physical layer for converting the program number command electrical signal, transferred from said first physical layer, into digital data;

a second link layer for converting the program number command digital data into parallel data, and for removing an asynchronous header; and

10 a second microcomputer including a transaction layer and a serial bus management layer, as software, for recording the program number on a predetermined region of a recording medium by recognizing the program number command during a recording mode, and for reading out the program number recorded in the

predetermined region during a playback mode.

16. The multi-media system of claim 15, wherein said recording/reproducing device further comprises a second extra header inserter/remover for removing an extra header inserted into an data block packet provided by said second digital interface for a IEEE 1394 transfer, and for inserting an extra header into the transport stream reproduced from the second signal processor, to form the data block packet for the IEEE 1394 transfer.

17. The multi-media system of claim 3, wherein said first signal processor further comprises an on-screen graphic (OSG) generator for displaying program guide information of a transport stream being received on an OSG display.

18. The multi-media system of claim 17, wherein said OSG generator mixes the program guide information with a graphic signal of a background screen to be provided to said OSG display.

19. The multi-media system of claim 17, wherein said OSG generator mixes the program guide information with the decoded video signal to be provided to said OSG display.

20. The multi-media system of claim 3, wherein said first signal processor further comprises an on-screen display (OSD) generator for displaying the program guide information of a transport stream being received on an OSD display.

21. The multi-media system of claim 17, wherein the second signal processor does not parse program guide information from a transport stream being received via the second digital interface.

22. A method for transferring and receiving a program number between a receiver with a digital interface for receiving a transport stream and a recording/reproducing device with a digital interface for recording/reproducing the transport stream on/from a recording medium, the method comprising the steps of:

(a) providing a program number of an intended program to be recorded; and

(b) generating a command corresponding to the provided program number to transfer the program number command, from the receiver to the recording/reproducing device.

23. The method of claim 22, wherein the step (a) comprises the steps of:

(a1) parsing program guide information from the transport stream;

(a2) displaying the parsed program guide information; and

(a3) providing the program number of the intended program according to the displayed program guide information.

24. The method of claim 23, wherein the parsed program guide information of step (a2) is displayed on an OSG display.

25. The method of claim 22, further comprising the steps of:

(c) transferring a command for inquiring whether to permit the transfer of the program number of the program recorded in the recording medium, from the receiver to the recording/reproducing device, during a playback mode; and

(d) receiving the program number of the program recorded in the recording medium, from the recording/reproducing

device.

26. A method for transferring a program number between a receiver with a digital interface for receiving a transport stream and a recording device with a digital interface for recording the transport stream on a recording medium, the method comprising the steps of:

- (a) providing a program number of an intended program to be recorded;
- (b) transferring a command for inquiring as to whether to permit the recording of the program;
- (c) receiving a response for permitting the recording of the program from the recording device;
- (d) transferring a command for performing the recording of the program corresponding to the program number provided in the step (a); and
- (e) receiving a response for notifying of the permission of the recording of the program corresponding to the program number, from the recording device.

27. The method of claim 26, wherein the step (a) comprises the steps of:

- (a1) parsing program guide information from the transport stream;
- (a2) displaying the parsed program guide information; and
- (a3) providing the program number of the intended program according to the displayed program guide information.

28. The method of claim 27, wherein step (a2) comprises displaying the parsed program guide information on an OSG display.

29. The method of claim 27, wherein step (a2) comprises displaying the parsed program guide information on an OSD display.

30. A method for receiving a program number by a receiver with a digital interface for receiving a transport stream and a reproducing device with a digital interface for reproducing the transport stream of the program recorded on a recording medium, the method comprising the steps of:

(a) inquiring as to whether to permit the transfer of a program number corresponding to the program recorded on the recording medium, during a playback mode;

(b) receiving a response for permitting the reproduction of the program from the reproducing device;

(c) transferring a command for requesting the program number of the program recorded on the recording medium; and

(d) receiving the program number of the program recorded on the recording medium from the reproducing device.